

Title: Bezel input for smart watches

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The bezel of a watch is the circular rim commonly used hold the glass lens onto the watch, it is also sometimes rotatable on sport or diving watches to keep track of elapsed minutes on a watch with hands. Bezels are also used for purely ornamental reasons or to protect the face.

A new functionality for bezels is described. If the bezel is allowed to function as an input mechanism its motion in various axes can be used to input information into smart watches. Several methods are enumerated:

1. The Bezel can be freely rotated and can function as:
  - a. A multi position rotary switch, and even multi-pole
  - b. A potentiometer
  - c. A variable capacitor
2. The bezel can be rotated with spring-return
3. The speed of rotation of the bezel can be measured to provide variable speed scrolling/selection/acceleration
4. The bezel can be moved slightly in the X and Y planes to function as a joystick/gamepad or thumb input
5. The bezel can rock down (depress) to function as a joystick or gamepad-type interface; or as a 4 or 8 direction X/Y switch.
6. Small buttons can be placed on the bezel to add functionality to bezel motion (like mouse buttons complement the mouse motion)
7. The actual face of the watch can be modified to allow better input control, for instance depressions or protrusions.
8. Touch sensitive material (or resistive or capacitance or other) can be put on the bezel to allow similar input without actually moving the bezel (the user would slide their finger around the bezel).

These methods can all be applied to smart watches to allow the user to input information, make choices, and navigate the UI.

